



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/079,019	02/19/2002	Heinz Horbaschek	P02,0048	5210

26574 7590 09/17/2003

SCHIFF HARDIN & WAITE
6600 SEARS TOWER
233 S WACKER DR
CHICAGO, IL 60606-6473

EXAMINER

HO, ALLEN C

ART UNIT PAPER NUMBER

2882

DATE MAILED: 09/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/079,019

Applicant(s)

HORBASCHEK, HEINZ

Examiner

Allen C. Ho

Art Unit

2882

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3, 5-9 and 18 is/are allowed.
- 6) ☒ Claim(s) 10-17 is/are rejected.
- 7) ☒ Claim(s) 3 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claims 3 and 16, objected to because of the following informalities: the symbol after "90" should be replaced by --°--. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 10-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe (U. S. Patent No. 6,325,537 B1) in view of Milnes (U. S. Patent No. 6,463,121 B1).

With regard to claim 11, Watanabe disclosed a method for operating an x-ray device comprising the steps of: providing a movably suspended holder (14) having a holder plane; mounting an x-ray radiator (12) to the holder so as to be rotatable around at least one axis (Fig. 3) perpendicular to the holder plane; mounting a radiation detector (16), for detecting radiation from the radiator, to the holder for displacement in a detector plane (Fig. 2), the detector having a detector format; moving the detector for obtaining a plurality of x-ray images using the radiator and the detector from a plurality of exposure positions on a circular arc around a focus of the radiator (column 6, lines 13-21, constant SID) so that a central ray of an x-ray beam emitted from the radiator is perpendicularly incident on a middle of the detector (Fig. 2).

However, Watanabe failed to teach the method further comprises a step of combining images respectively obtained at the exposure positions to obtain a composite x-ray image without distortion that is larger than the detector format.

Milnes disclosed a method for combining images respectively obtained at the exposure positions to obtain a composite x-ray image (Fig. 6A) without distortion that is larger than the detector format.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine images to form a composite x-ray image that is larger than the detector format, since a large composite x-ray image (the big picture) formed from different perspectives would give a person additional insight on how different parts of the object are interconnected, thus giving the person a deeper understanding of the internal structure of the object.

With respect to claim 12, Watanabe disclosed a method as claimed in claim 11, comprising displacing and aligning the detector (Fig. 2) at the respective exposure positions.

With respect to claim 13, Watanabe disclosed a method as claimed in claim 11, comprising tilting the radiator for aligning the central ray of the x-ray beam to the middle of the detector (Fig. 2).

With respect to claim 14, Watanabe disclosed a method as claimed in claim 11, comprising providing a primary radiation diaphragm (aperture) through which the x-ray beam proceeds, and adjusting (204b) the primary radiation diaphragm to align the central ray of the x-ray beam on the middle of the detector.

With regard to claim 15, Watanabe disclosed a universal x-ray device comprising: an x-ray radiator (12); a radiation detector (16) for detecting x-rays emitted by the radiator, the radiation detector having a detector format; a movably suspended holder (14) having a holder plane; a radiator mount (Fig. 3) for mounting the radiator to the holder so that the radiator is rotatable around at least one axis perpendicular to the holder plane; a detector mount (Fig. 2) for mounting the detector to the holder allowing displacement of the detector in a detector plane; a first motor actuator (30) for rotating the radiator, a second motor actuator (56) for displacing the detector, and a third motor actuator (18) for moving the holder; and a control unit (210) connected to the first motor actuator, the second motor actuator, and the third motor actuator for controlling respective movements of the holder, the detector, and the radiator to obtain a plurality of individual images.

However, Watanabe failed to teach that the control unit combines the plurality of individual images to form a combined image that is larger than the format of the radiation detector.

Milnes disclosed a universal x-ray device comprising a control unit (120) that combines images respectively obtained at the exposure positions to obtain a composite x-ray image without distortion that is larger than the detector format (Fig. 6A).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine images to form a composite x-ray image that is larger than the detector format, since a large composite x-ray image (the big picture) formed from different perspectives would give a person additional insight on how different parts of the object are

interconnected, thus giving the person a deeper understanding of the internal structure of the object.

With regard to claim 10, Watanabe disclosed a universal x-ray device as claimed in claim 15, wherein the holder is a C-arm having a first end at which the radiator mount and the radiator are disposed, and a second end at which the detector mount and the detector are disposed.

With respect to claim 16, Watanabe disclosed a universal x-ray device as claimed in claim 15, wherein the radiator mount allows the radiator to be rotated by at least 90° away from a line proceeding between the radiator and the detector (Fig. 2).

With respect to claim 17, Watanabe disclosed a universal x-ray device as claimed in claim 15, wherein the detector mount is a swivel arm (20) having a first end to which the detector (16) is rotatably mounted and a second end that is rotatably hinged to an end (the end at left in Fig. 2) of the holder so that the arm is displaceable in the detector plane.

Allowable Subject Matter

4. Claims 1-3, 5-9, and 18 are allowed.
5. The following is an examiner's statement of reasons for allowance:

With regard to claims 1-3, 5-9, and 18, although the prior art discloses a universal x-ray device comprising an x-ray radiator, a radiation detector, a movably suspended holder having a holder plane, a radiator mount for mounting the radiator to the holder so that the radiator is rotatable around at least one axis perpendicular to the holder plane, and a detector mount for mounting the detector to the holder allowing displacement of the detector in a detector plane, it

Art Unit: 2882

fails to teach or fairly suggest that the radiator is rotatable around a second axis disposed in the holder plane, allowing the radiator to be tilted out of the holder plane, as claimed in claim 1.

Response to Arguments

6. Applicant's arguments with respect to claims 11 and 15 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 2882


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen C. Ho whose telephone number is (703) 308-6189. The examiner can normally be reached on Monday - Friday from 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward J. Glick can be reached at (703) 308-4858. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0530.

Allen C. Ho
Patent Examiner
Art Unit 2882

ACH ACH 9.11.03


EDWARD J. GLICK
SUPERVISORY PATENT EXAMINER